REMARKS

Rejection under 35 U.S.C. §112 first paragraph

Claims 1 – 17 and 21 – 23 are rejected as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention.

The examiner states that Claims 1, 10 and 21 recite a delay means/step that is not disclosed fully to understand the apparatus or method of detecting a waveform. As explained in the application, a correlation technique delays the received waveform by R x (Nk+Nu) symbols thereby generating a peak that may be used in a detection algorithm (Page 5, line 8 et seq.). It is further explained in the application that each signal correlator may be programmed for an anticipated search delay based on an expected waveform (Page 6, line 16 et seq.). There are several well-known delaying means in the art which would enable one skilled in the art to make and/or use the subject disclosure. Reconsideration and withdrawal of the rejections of Claims 1, 10, and 21 is hereby solicited.

Claims 2-9, 11-17, and 22-23 are dependent upon independent claims 1, 10 and 21, respectively. Claims 1, 10, 21 are in condition for allowance. Irrespective of the additional limitations contained therein, allowance of Claims 2-9, 11-17, and 22-23 is hereby solicited.

The examiner further states that Claim 22 contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. Specifically, the examiner questions where the N-tap

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combining filter is shown and described for one of ordinary skill in the art to make and use such an element. As explained in the application, a three-tap combining filter combines the energy from three peaks of an output signal from the signal correlator thereby enhancing the detection capability of the detectors. It is further disclosed that the filter may be an N-tap combining filter (Page 10, line 3 et seq.). From a perusal of the disclosure, it is readily apparent that one skilled in the art would understand the operation and component relationship of the filter as disclosed in the subject application. Reconsideration and withdrawal of the rejection of Claim 19 is hereby solicited.

The examiner also states that Claim 8 contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. Specifically, the examiner questions the disclosed masking function of the subject application. As explained in the application, the signal correlator may be programmed to utilize and control a rotating mask function to detect the presence of a waveform having small known to unknown ratios. The application further discloses an example of a mask function having a length (Nk+Nu) utilized to mask the energy from the known blocks and help identify the known blocks and an example of the rotation of a mask function (Page 9, line 2 et seq.). There are many known mask functions in the art, and the application of such a rotating mask function in the subject disclosure would be readily apparent to one skilled in the art. Reconsideration and withdrawal of the rejection of Claim 8 is hereby solicited.

Rejection under 35 U.S.C. §102(b)

Claim 20 has been cancelled.

Claims 1,2,4-6,10-12,15-21 and 23 are rejected as being anticipated by Milton, et al., U.S. Patent No. 5,903,654 ("Milton"). Specifically, the examiner references Figure 1, Columns 5 – 7, and Column 3, ll. 7-10 to show an apparatus with the inherent method steps of detecting a waveform without demodulating the signal, where a first signal is received, delayed and combined to produce a correlated signal to determine a peak value. The examiner further states that there is an inherent frequency offset and that the specific code repeats every 1 millisecond. It appears the examiner has misunderstood the disclosure of Milton. Milton discloses receiving two distinct signals L1 and L2 (Col. 1, ll. 42-47), cross-correlating L1 and L2, detecting a cross-correlation value, and varying the relative delay between L1 and L2 to obtain a maximum cross-correlation value. This maximum cross-correlation value represents the amount of delay between L1 and L2 and is proportional to an ionospheric delay. This delay may then be subtracted from a Standard Positioning Service solution for resulting Global Positioning System measurements (Col. 5, ll. 1-45).

Claims 1, 10, and 21 recite delaying a first signal an integer number of the predetermined intervals to provide a second signal. Milton does not disclose nor is there a teaching or motivation to delay a first signal by an integer number of predetermined intervals to provide a second signal. As discussed above, Milton discloses two distinct signals and measuring the relative delay between the signals. Reconsideration and withdrawal of the rejections of Claims 1, 10, and 21 is hereby solicited.

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Claims 2, 4-6; 11-12,15-17; and 23 are dependent upon independent claims 1, 10 and 21, respectively. Claims 1, 10, 21 are in condition for allowance. Irrespective of the additional limitations contained therein, allowance of Claims 2,4-6,11-12,15-17 and 23 is hereby solicited.

Claim 18 recites "detecting the presence of the waveform as a function of the repetition rate of the periodically repeating portion of the waveform." As discussed above, Milton discloses detecting a cross-correlation value which is a function of the measured delay between L1 and L2 and using this value to remove an error in the Standard Positioning Service solution. Milton does not disclose nor teach detecting the presence of a waveform as a function of the repetition rate of a periodically repeating portion of the waveform. Reconsideration and withdrawal of the rejection of Claim 18 is hereby solicited.

Claim 19 recites "detecting the presence of the waveform without compensating for the frequency offset." The examiner opines that there is inherent frequency offset disclosed by Milton. Applicant argues that there is no inherent frequency offset present in Milton.

Giving the word, "inherent", an ordinary dictionary meaning, the examiner is stating that a frequency offset does not have to be disclosed in Milton, but must be present in the invention of Milton for proper operation. Applicant argues that a frequency offset is not required in Milton for eliminating ionospheric delay errors in a Global Positioning System or for the operation of the disclosed apparatus therein.

Therefore, there exists no inherency as suggested by the examiner. Reconsideration and withdrawal of the rejection of Claim 19 is hereby solicited.

A further and favorable Action and allowance of Claims 1-19 and 21-23 is hereby solicited.

Respectfully submitted

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Dated: April 29, 2003